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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,953	01/17/2002	Darren D. Cofer	1100.1144101 (H0002091)	3315

7590

06/11/2003

CROMPTON, SEAGER & TUFTE, LLC  
Suite 895  
331 Second Avenue South  
Minneapolis, MN 55401-2246

EXAMINER

GONZALEZ, MADELINE

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/052,953

Applicant(s)

COFER ET AL.

Examiner

Madeline Gonzalez

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 23 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Upon further consideration, the election of species required to Applicant on May 1, 2003 has been withdrawn. Accordingly, claims 1-24 have been examined.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23: The claim recites the limitations “calculating a difference “gref”” in line 6, and “calculating a difference “glive”” in line 11. The claim language is confusing because it is not clear the meaning of “gref” and “glive”.

Claim 24 is rejected due to its dependency on claim 23.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 11-14 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ume et al. (U.S. 6,564,166) [hereinafter Ume].

Ume discloses a projection moiré apparatus, as shown in Fig. 1, which operation includes the steps of:

- illuminating a monitored area 24 with a first pattern;
- creating moiré interference bands by imposing a second pattern shifted relative to the first pattern;
- capturing a live image of the monitored area 24, including the moiré interference bands;
- detecting changes in a surface (object) in the monitored area when a change is detected in the moiré interference bands in the live image;
- wherein the detecting step inherently detects changes in a surface (object) in the monitored area when the change in the moiré interference bands exceeds a predetermine threshold;

Art Unit: 2859

- capturing a reference image of the monitored area, including the moiré interference bands, and comparing the reference image and the live image to detect a change in the moiré interference bands in the live image (see col. 2, lines 18-22);
- wherein the reference image of the monitored area and the live image of the monitored area are captured with a camera 36 (sensor);
- wherein the first pattern is illuminated using light from a specified spectral region and the camera 36 (sensor) is attuned to the spectral region;
- wherein the monitored area is illuminated with a static pattern;
- wherein the monitored area is illuminated with a dynamic pattern;
- wherein the comparing step compares the pattern of the reference image and the live image inherently using one or more comparing algorithms; and
- performing a predefined action if the detecting step detects a change on the surface.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

Art Unit: 2859

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 6-10, 15-17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ume (U.S. 6,564,166).

Ume discloses all the subject matter claimed above in paragraph 5 with the exception of the specific way in that the moiré interference bands are created.

With respect to the specific way in that the moiré interference bands are created: Ume discloses a method for detecting changes on a surface including the step of creating moiré interference bands by imposing a second pattern shifted relative to the first pattern. The specific manner of creating the moiré interference bands claimed by applicant, i.e., created by illuminating the monitored area with the second pattern; created by providing a mask or grating having the second pattern between the monitored area and an image capture device; created by digitally imposing the second pattern on the live image; and wherein the first pattern is illuminated using light from a first illumination source, and the second pattern is imposed using a second illumination source, absent any criticality, is considered to be nothing more than a choice of engineering skill, choice or design because neither non-obvious nor unexpected results, i.e.,

Art Unit: 2859

results which are different in kind and not in degree from the results of the prior art, will be obtained as long as moiré interference bands are created by imposing a second pattern shifted relative to the first pattern, as already suggested by Ume.

### ***Allowable Subject Matter***

9. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pingel et al. ('967) discloses a method for detecting optical errors in panels. Vokhmin discloses a method for non-contact measurements of optical properties of optical objects. Muller et al. ('349) discloses a flatness measurement system. Pingel et al. ('754) discloses a method of measuring the profile of a reflective surface. Ruckh et al. ('199) discloses a method for detecting objects in a monitored area. Kulawiec et al. ('384) discloses a moiré interferometer.

Art Unit: 2859

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeline Gonzalez whose telephone number is (703) 308-7004. The examiner can normally be reached on Monday-Friday (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (703) 308-3875. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MG  
June 2, 2003



Diego F.F. Gutierrez  
Supervisory Patent Examiner  
Technology Center 2800

**CHRISTOPHER W. FULTON**  
**PRIMARY EXAMINER**